

Application Number 10/004,536
Responsive to Office Action mailed December 28, 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A routing component comprising:
a first interface to communicate data with a first network interface;
a second interface to communicate data with a second network interface, wherein the first interface and the second interface are integrated within a single integrated circuit; and
an embedded memory within the integrated circuit to buffer data communicated in a first direction from the first interface to the second interface; and
a memory interface to couple the integrated circuit to an external memory for buffering data communicated in a second direction from the second interface to the first interface.

Claim 2 (Currently Amended): The routing component of claim 1, further comprising:
~~an interface to an external memory for buffering data communicated from the second interface to the first interface~~
a first control unit to buffer in the embedded memory data that is received from the first interface and forwarded to the second interface; and
a second control unit to buffer in the external memory data that is received from the second interface and forwarding to the first interface.

Claim 3 (Original): The routing component of claim 2, wherein the external memory has a greater storage capacity than the embedded memory.

Claim 4 (Original): The routing component of claim 1, wherein the first interface comprises a wide area network (WAN) interface.

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Claim 5 (Original): The routing component of claim 1, wherein the second interface comprises a switch fabric interface.

Claim 6 (Original): The routing component of claim 5, wherein the switch fabric interface communicates crossbar data.

Claim 7 (Currently Amended): The routing component of claim 1, wherein the routing component is implemented using an a single application specific integrated circuit (ASIC).

Claim 8 (Original): The routing component of claim 1, wherein the embedded memory comprises a random access memory (RAM).

Claim 9 (Currently Amended): A network element comprising:
a first network interface to communicate data with a network;
a second network interface to communicate data with the network; and
~~a router having an embedded memory to store data communicated using the second network interface;~~
a routing component formed in an integrated circuit, wherein the routing component has an embedded memory within the integrated circuit; and
a second memory external to the routing component,
wherein the routing component buffers data in the embedded memory that is communicated in a first direction from the first network interface to the second network interface, and
wherein the routing component buffers data in the second memory that is communicated in a second direction from the second network interface to the first network interface.

Claim 10 Cancelled.

Claim 11 (Currently Amended): The network element of claim 9, wherein the second memory has a greater storage capacity than the embedded memory.

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Claim 12 (Currently Amended): The network element of claim 9, wherein the first network interface ~~comprises and the second network interface comprise a~~ wide area network (WAN) interfaces.

Claim 13 (Currently Amended): The network element of claim 9, ~~wherein the second network interface comprises~~ further comprising a switch fabric coupling the routing component to a second routing component interface.

Claim 14 (Currently Amended): The network element of claim 13, wherein the switch fabric ~~interface~~ communicates crossbar data.

Claim 15 (Currently Amended): The network element of claim 9, wherein the router routing component is implemented using an application specific integrated circuit (ASIC).

Claim 16 (Original): The network element of claim 9, wherein the embedded memory comprises a random access memory (RAM).

Claim 17 (Original): The network element of claim 9, further comprising a second router having an embedded memory to store data communicated using the second network interface.

Claim 18 (Currently Amended): An integrated circuit (IC) comprising:
a first interface to communicate data with a network;
a second interface to communicate data with the network;
an embedded memory internal to the IC to buffer data communicated in a first direction from the first interface to using the second interface; and
an interface to a memory external to the IC for buffering data communicated in a second direction from the second interface to using the first interface.

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Claim 19 (Original): The IC of claim 18, wherein the memory external to the IC has a greater storage capacity than the embedded memory.

Claim 20 (Original): The IC of claim 18, wherein the first interface is coupled to a wide area network (WAN) interface.

Claim 21 (Original): The IC of claim 18, wherein the second interface is coupled to a switch fabric.

Claim 22 (Original): The IC of claim 21, wherein the switch fabric comprises a crossbar.

Claim 23 (Original): The IC of claim 18, wherein the embedded memory comprises a random access memory (RAM).

Claim 24 (Currently Amended): A router comprising:
an integrated circuit (IC) comprising:
a first interface to communicate data with a network;
a second interface to communicate data with the network;
an embedded memory to buffer data communicated in a first direction from the first interface to using the second interface; and
an interface to a memory external to the IC for buffering data communicated in a second direction from the second interface to the first interface.

Claim 25 (Original): The router of claim 24, wherein the memory external to the IC has a greater storage capacity than the embedded memory.

Claim 26 (Original): The router of claim 24, wherein the first interface is coupled to a wide area network (WAN) interface.

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Claim 27 (Original): The router of claim 24, wherein the second interface is coupled to a switch fabric.

Claim 28 (Original): The router of claim 26, wherein the switch fabric comprises a crossbar.

Claim 29 (Original): The router of claim 24, wherein the embedded memory comprises a random access memory (RAM).

Claim 30 (Currently Amended): A method for communicating data using a network router, the method comprising:

receiving inbound data from a first network interface via a first routing component;
buffering the inbound data within an embedded memory internal to the first routing component;

forwarding the inbound data from the first routing component to a second routing component via a switch;

receiving outbound data with the first routing component from the switch;

buffering the outbound data within a memory external to the first routing component; and
forwarding the outbound data to the network interface.

~~storing the data in a memory device external to the network router;~~

~~selecting a route for transmitting the data; and~~

~~storing the data in an embedded memory.~~

Claim 31 (Currently Amended): The method of claim 30, wherein the external memory ~~external to the network router~~ has a greater storage capacity than the embedded memory.

Claim 32 (Currently Amended): The method of claim 30, wherein the first network interface comprises a wide area network (WAN) interface.

Claim 33 Cancelled.

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Claim 34 (Currently Amended): The method of claim 33, wherein the switch fabric interface communicates crossbar data.

Claim 35 (Currently Amended): A routing arrangement comprising:
a crossbar arrangement;
a plurality of routing components coupled to the crossbar arrangement, at least one of the routing components comprising
a first interface to communicate data with a network;
a second interface to communicate data with the crossbar arrangement;
an embedded memory to buffer data communicated in a first direction from the first interface to with the crossbar arrangement; and
an external memory interface to a memory external to the routing device for buffering data communicated in a second direction from the crossbar arrangement to with the network.